National Institute of Environmental Health Sciences

Assessing the relationship between global warming and mortality: Lag effects of temperature fluctuations by age and mortality categories

Author(s): Yu W, Mengersen K, Hu W, Guo Y, Pan X, Tong S
Year: 2011
Journal: Environmental Pollution (Barking, Essex : 1987). 159 (7): 1789-1793

Abstract:

Although interests in assessing the relationship between temperature and mortality have arisen due to climate change, relatively few data are available on lag structure of temperature-mortality relationship, particularly in the Southern Hemisphere. This study identified the lag effects of mean temperature on mortality among age groups and death categories using polynomial distributed lag models in Brisbane, Australia, a subtropical city, 1996-2004. For a 1 degrees C increase above the threshold, the highest percent increase in mortality on the current day occurred among people over 85 years (7.2% (95% CI: 4.3%, 10.2%)). The effect estimates among cardiovascular deaths were higher than those among all-cause mortality. For a 1 degrees C decrease below the threshold, the percent increases in mortality at 21 lag days were 3.9% (95% CI: 1.9%, 6.0%) and 3.4% (95% CI: 0.9%, 6.0%) for people aged over 85 years and with cardiovascular diseases, respectively. These findings may have implications for developing intervention strategies to reduce and prevent temperature-related mortality.

Source: http://dx.doi.org/10.1016/j.envpol.2011.03.039

Resource Description

Communication: ☑

resource focus on research or methods on how to communicate or frame issues on climate change; surveys of attitudes, knowledge, beliefs about climate change

A focus of content

Communication Audience: ☑

audience to whom the resource is directed

Policymaker

Early Warning System: ☑

resource focus on systems used to warn populations of high temperatures, extreme weather, or other elements of climate change to prevent harm to health

A focus of content

Exposure : ☑

weather or climate related pathway by which climate change affects health

Temperature

Temperature: Extreme Cold, Extreme Heat

Geographic Feature:

resource focuses on specific type of geography

Other Geographical Feature

Other Geographical Feature : Subtropical

Geographic Location:

resource focuses on specific location

Non-United States

Non-United States: Australasia

Health Impact:

specification of health effect or disease related to climate change exposure

Cardiovascular Effect, Injury

Intervention:

strategy to prepare for or reduce the impact of climate change on health

A focus of content

Mitigation/Adaptation:

mitigation or adaptation strategy is a focus of resource

Adaptation

Population of Concern: A focus of content

Population of Concern:

populations at particular risk or vulnerability to climate change impacts

Elderly

Resource Type:

format or standard characteristic of resource

Research Article

Timescale:

time period studied

Time Scale Unspecified

Vulnerability/Impact Assessment:

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content